

REMARKS

Pending Claims

Claims 1,2,4 and 6-10 are now pending. Claims 1,2,4 and 6-10 have been amended. Claims 3,5 and 11-14 have been canceled.

Subject Matter Indicated Allowable

Applicant gratefully acknowledges the indication of allowance of claims 7-10 subject to their re-writing in independent form.

Claim Objections

By the present amendment, Applicants have amended the claims of the present application to overcome the various objections asserted in the Office Action. Specifically, claims 2, 4, and 6-10 have been amended to recite that the claims are directed to an "adaptive equalizer". The objections to claims 3 and 5 have been rendered moot in view of their cancellation. Claims 7-9 have been amended to define the variables. Claim 6 has been amended to recite that the operation is performed using fixed-point arithmetic, while claim 10 has been amended to remove the term "stabilization quantity". Accordingly, Applicant respectfully submits that the objections to the claims have been overcome by the present claim amendments.

Art Rejection

In the Office Action, claims 1-6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Nobakht et al. (U.S. Pat. No. 5,539,774). As understood, Nobakht discloses an adaptive equalization method and device. The system has a feed forward filter (e.g., an adaptive filter), a feedback filter, a decision element and means to adjust the coefficients of the adaptive filter. As explained at line 11 column 11 of Nobakht, the coefficient adjustment process determines what adjustments are needed in the coefficients of the adaptive filter. The Nobakht reference describes using a Recursive Least Squares (RLS) technique for the adaptation process. Specifically, either a Square Root RLS, a Fast RLS or Fast Transversal Equalization technique can be used. The Nobakht reference describes the adaptation techniques as being commonly known.

On the other hand, claim 1 of the present application has been amended to describe the adaption technique as being a reinitializable low complexity fast least squares (RCS) technique which is not the same as the Recursive Least Squares techniques disclosed by Nobakht. As described in the present application, RCS offers improved benefits over RLS. Specifically, as stated on page 10, line 20 of the present application, the commonly known RLS algorithms require that the data stream be contiguous for training. On the other hand, the RCS technique as claimed does not require a contiguous data stream for training. Because the RCS technique is reinitializable, a non-contiguous data stream can be used without restarting the algorithm. The RCS technique can be stopped at any time and started at a later time with a new initialization. Accordingly, the RCS technique, as described in

claim 1, provides for a store/process mode such that computations can be distributed over multiple sample periods.

Accordingly, Applicant respectfully submits that claim 1, as amended, is not disclosed by Nobakht because the Nobakht reference does not teach or suggest using a reinitializable low complexity fast least squares criterion. As previously discussed, the Nobakht reference teaches using a common recursive least squares (RLS) criterion which, by definition, cannot be re-initialized. The RLS techniques disclosed by Nobakht do not offer the computational benefits of the RCS technique. By using the reinitializable RCS technique, the complexity of the calculations are reduced, thereby providing improved efficiency over the RLS technique. Accordingly, Applicant respectfully submits that claim 1 is not anticipated by Nobakht and is in condition for allowance. Furthermore, Applicant respectfully submits that claims 2,4 and 6-10 are in condition for allowance as being dependent upon an allowable base claim.

Conclusion

In view of the preceding discussion, Applicant respectfully urges that the claims of the present application define patentable subject matter and should be passed to allowance.

If the Examiner believes that a telephone call would help advance prosecution of the present invention, the Examiner is kindly invited to call the undersigned attorney at (650) 622-2300.

Respectfully submitted,

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